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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,373	07/15/2003	Lars W. Liebmann	FIS920020113	1372

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INTERNATIONAL BUSINESS MACHINES CORPORATION  
DEPT. 18G  
BLDG. 300-482  
2070 ROUTE 52  
HOPEWELL JUNCTION, NY 12533

EXAMINER
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DIMYAN, MAGID Y

ART UNIT	PAPER NUMBER
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2825

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/604,373		LIEBMANN ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Magid Y. Dimyan		2825	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 July 2003 and 11 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 6, 12 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper-No(s)/Mail-Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>07/15/2003</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. This is with reference to Application No. 10/604,373, filed on July 15, 2003.

Claims 1 – 17 remain pending in this Application.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 – 5, 7 – 11 and 13 - 16 rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,846,596 to Wu.

4. Referring to claims 1, 7 and 13, Wu discloses a method and system for producing (i.e., generating) patterns of a paired set of photomasks from a data set defining a circuit layout to be provided on a substrate (see Fig. 1; col. 2, lines 28 – 53), comprising: (a) Inputting a circuit layout and identifying critical segments (see Fig. 1, blocks 10, 11, 12; col. 3, line 65 – col. 4, line 11); (b) generating and legalizing block mask patterns based on identified critical segments (Fig. 1, block 13; col. 4, lines 11 –

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20); and (c) generating, legalizing and coloring phase mask patterns for use in dual exposure method with the block mask patterns (Fig. 1, block 14; col. 4, lines 20 – 25), wherein legalized block mask patterns define a block mask and the colored legalized phase mask patterns define an alternating phase shift mask such that both masks can be used together in a dual exposure method for patterning the critical dimensions on the substrate (see Fig. 1, blocks 15 – 18; col. 4, lines 25 – 37). Thus, Wu clearly recites all the claimed limitations.

5. As per claims 2, 8 and 14, see Fig. 6, blocks 252 and 282; col. 7, lines 6 – 16, which show the processors used in the system as claimed.

6. Regarding claims 3, 9 and 15, see (4) above, and Fig. 1, blocks 14 – 18 which teach the claimed elements pertaining to generating the data of the required mask patterns.

7. Pursuant to claims 4, 5, 10, 11, 16 and 17, see col. 8, lines 4 – 26 which disclose the claimed limitations regarding design rule checking prior to data generation as well as modifying the circuit layout if violations in the design rules are found.

### ***Allowable Subject Matter***

8. Claims 6, 12 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: prior art does not teach the claimed limitations of the phase mask patterns that include a pair of juxtaposed etch regions in the phase mask such that each region of each pair has a path length difference of an odd number of half wavelengths relative to the other regions of each pair.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magid Y. Dimyan whose telephone number is (571) 272-1889. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:00 PM.

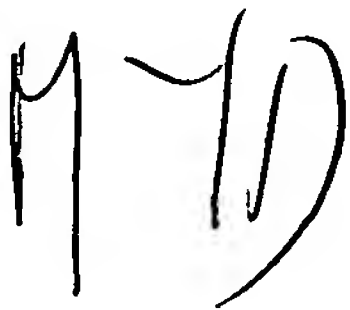
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Magid Y Dimyan  
Examiner  
Art Unit 2825

myd  
29 July 2005



VUTHE SIEK  
PRIMARY EXAMINER